APPROVED MEETING MINUTES
SOUTH CAROLINA SHORELINE CHANGE ADVISORY COMMITTEE
Topic: Estuarine Shorelines, part 1
October 17, 2008 – 9:30am-3:30pm

This document is not intended to be a meeting transcript, *per se*. It is a summary of key themes and some (though not all) of the background dialogue. The meeting summary's structure roughly parallels that of the meeting agenda but is not necessarily true to the temporal order of discussion. A digital recording of the meeting is located at SCDHEC-OCRM's Charleston office.

In Attendance:
1) Advisory Committee members:

Mark Caldwell,	U.S. Fish & Wildlife Service
Amy Cappellino,	U.S. Army Corps of Engineers – *alt. for Sara Brown*
Mary Conley,	The Nature Conservancy
Paul Conrads,	U.S. Geological Survey
Rick DeVoe,	S.C. Sea Grant Consortium
Kirstin Dow,	University of South Carolina
Josh Eagle,	University of South Carolina
Paul Gayes,	Coastal Carolina University
Scott Harris,	College of Charleston
Norm Levine,	College of Charleston
Jim London,	Clemson University
Brice McKoy,	U.S. Army Corps of Engineers – *alt. for Tina Hadden*
Tara Miller,	NOAA Coastal Services Center
Jim Morris,	University of South Carolina
Bob Van Dolah,	S.C. Department of Natural Resources
Fran Way,	Applied Technology and Management - *alt. for Chris Mack*

2) Guest Speakers:

Debra Hernandez,	Hernandez and Company, LLC
Lisa Jones,	S.C. Department of Natural Resources

3) S.C. Department of Health & Environmental Control:

Braxton Davis,	OCRM Science & Policy Director
Sadie Drescher,	OCRM Research Specialist
Barbara Neale,	OCRM Regulatory Director
Matt Slagel,	NOAA Coastal Management Fellow

Welcome / Progress to Date:

Braxton Davis, Director of OCRM's Science & Policy Division, provided a brief overview of the Shoreline Change Initiative and the purpose of the Advisory Committee. To date, there have been two orientation meetings focused on OCRM authorities and activities, the Committee work plan and process, and shoreline management in other states. The Committee has also examined research and information needs, and South Carolina's policies concerning retreat, beach renourishment, and beachfront erosion control. At the meeting on June 20th, the Committee revisited the draft policy options that had been developed up to that point. At the previous meeting on August 20th, the Committee discussed the role of local governments in beachfront management and planning, and the final minutes are now posted on the Shoreline Change Advisory Committee website. The purpose of this meeting is to discuss estuarine shoreline alterations, erosion control structures and floodplain management. The final topic-oriented meeting, which is scheduled for November 24th in Charleston, will focus on estuarine shoreline development and buffers. Also, the Shoreline Change State of Knowledge report will be presented by Tidewater Environmental Services, and an update from the Clemson beachfront study will be provided as well. At this stage, the Committee has been exploring different policy options, but the policy options have not been finalized and any of them may be dropped or added at any time. During the final "brainstorming" meeting, OCRM will present an overview of the policy templates and a proposed timeline / flow diagram for completing the Committee's work, drafting the report, gathering additional public comments, and releasing the final report. The DHEC Board is very interested in the products of the Shoreline Change Advisory Committee, and the Board hopes to hear from the Committee once the final report is complete.

Presentations:

The following presentations are available on the Shoreline Change Advisory Committee website: http://www.scdhec.gov/environment/ocrm/science/shoreline_comm_1008.htm

Overview of OCRM Authorities for Estuarine Shorelines
Barbara Neale; SCDHEC-OCRM Regulatory Division

Question and Answer session:

Q- In 2004, new bulkheads along estuarine shorelines became prohibited where marshlands are adequately serving as an erosion buffer. Has this prohibition been tested in court?
A- No, this has not yet been tested in court.

Q- Can pre-existing estuarine erosion control structures be repaired if damaged?
A- Yes.

Q- Is there anything in the regulations to prohibit the construction of erosion

control structures that would protect undeveloped land?
A- Emergency orders on ocean shorelines must protect a habitable structure, but there is no prohibition on protecting vacant land along estuarine shorelines.

Q- Why wouldn't property owners simply avoid the OCRM permitting process by building bulkheads immediately outside of OCRM's critical area jurisdiction?
A- Some local governments have buffers or additional setbacks from the OCRM critical line.

Q- Is the OCRM critical line defined based on vegetation or a datum such as Mean High Water?
A- The critical line is delineated based on vegetation.

Q- OCRM regulations address any construction or other work on the marsh side of the critical line, but do the regulations address work done in the upland areas?
A- Yes, OCRM has direct permitting authority in the marsh and indirect permitting authority in the upland.

Q- Are bulkhead permits typically submitted for an entire development or parcel by parcel?
A- Bulkhead permits are typically submitted on a parcel-by-parcel basis.

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Mitigating Shore Erosion along Sheltered Coasts
Debra Hernandez; Hernandez and Company, LLC

Question and Answer session:

Q- In what instances could sediment be implemented as a valuable resource in the estuarine environment?
A- More study is needed to determine how much marsh is being lost to sea level rise and development impacts. Mud from dredging could be placed in areas where the marsh is sinking, or broadcast spraying of sediment could be explored as a way to dispose of sediment in a mutually beneficial way. This comment is not advocating a statewide policy, but beneficial re-use of dredge material in the marsh could be analyzed at the site or project level to determine potential effectiveness.

Q- Did the National Academies report explore living/alternative shorelines?
A- Not very much. The scale of the report was at the national level, so it would have been difficult to make site-specific living/alternative shoreline projects seem relevant. Also, there is not much information currently available about alternative structures.

Comment- Two Cooperative Institute for Coastal and Estuarine Environmental

Technology (CICEET) proposals in North Carolina and Puget Sound, WA are examining ecosystem services and other details of alternative structures. Also, SC DNR is looking at oyster beds as shoreline hardening alternatives. The State of Maryland recently passed legislation requiring the consideration of "living shoreline" approaches to erosion control along estuarine shorelines.

Q- What states have the best management practices or the most proactive approaches for dealing with estuarine shoreline erosion control?

A- Work is ongoing in Maryland, Virginia, North Carolina, Georgia, and here in South Carolina. For instance, OCRM recently funded an alternative shoreline stabilization project at the North Inlet-Winyah Bay National Estuarine Research Reserve (NERR). The project consisted of a cellular concrete mat system sold under the brand name Armorflex® along a 150 ft estuarine shoreline that had 40 ft of highly erosional area. Native vegetation was planted within the concrete cells, and monitoring for water quality, oyster recruitment, and vegetation biomass will be conducted over three years.

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South Carolina's Floodplain Management Program
Lisa Jones; South Carolina Department of Natural Resources

Question and Answer session:

Q- If the state of South Carolina were to require that sea level rise is considered in the analysis, could it be included in the flood map modernization project?

A- The revised maps would show erosion areas, but a future conditions coastal model could help to show the effects of sea level rise and continued coastal development. SC DNR does not have the funding to incorporate sea level rise in the flood map modernization project, but FEMA could potentially fund this type of work if the state's mapping requirements were more restrictive. An ADCIRC storm surge model is being run for the entire SC coast, but this model does not include sea level rise. Erosion mapping is not part of the flood map modernization project because it is not currently required in SC.

Q- How do future conditions coastal models handle build-out?

A- Not aware if this has been done in the coastal environment, but Charlotte-Mecklenburg County, NC has created a future conditions model for the riverine environment based on master plans and build-out scenarios.

Q- Should the state paint a ring on telephone polls corresponding to different category storms or flood heights so people know their degree of risk?

A- This could provide a false sense of security since storm category is simply based on wind speed. Tide, wave height, and other factors would need to be considered also.

Q- Is there any language within flood ordinances that could make them more restrictive than beach ordinances?

A- No, needs to be the other way around. Beach ordinances would need to be written that are more restrictive than the flood ordinances, and comprehensive planning could be one way to achieve this.

Q- If a habitable structure at one point has tidal water flow beneath it, is it still eligible for FEMA flood insurance?

A- Yes, the structure would still be eligible.

Q- Have there been any changes to federal regulations with respect to FEMA by lobbying efforts?

A- In 1986 there was a major rule change regarding manufactured housing restrictions. In 1989, the rules were re-written due to the lobbying efforts of the manufactured housing industry.

Q- How do renourishment projects, building setbacks, and buffers factor into the National Flood Insurance Program's Community Rating System (CRS)?

A- Management options that mitigate flood hazards also reduce the flood insurance premiums for the citizens of the community. The incentive program of the CRS gives points when flood hazards are mitigated such that every 500 earned points equates to a 5% discount on flood insurance premiums within the community.

Q- Do communities know all of the flood hazard mitigation options that are available to them?

A- To increase public education and awareness, SC DNR leads floodplain management training exercises, and recently released the first stage of an ordinance development tool as well.

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Facilitated Discussion on Policy Options to Explore:

The Committee members discussed potential policy options relating to estuarine shoreline erosion and erosion control that they would like to explore and develop with draft templates. Small work groups have not yet been identified to develop the following policy options, but volunteers will be sought at the next meeting on November 24th.

NOTE: This DOES NOT infer that any one or all of the Committee members are supportive of any of these ideas at this stage. This exercise was intended to allow for open "brainstorming" of ideas - even ideas that may not seem possible or preferable on the surface, to help foster discussions among the Committee.

1) Generate and require inclusion of erosion maps and future condition maps in flood map modernization / FEMA Flood Rate Maps (for consideration by work group focusing on integrating floodplain mgmt. and beachfront policies).

2) Develop estuarine shoreline classifications with appropriate erosion control response table
-Shoreline type vs. appropriate erosion control options
-Erosion control alternatives and costs
-Recommendations
-Demonstration projects, living shorelines

3) Increase permit requirements/conditions for estuarine bulkhead construction
-Require consideration of living shorelines
-Restrict erosion control on undeveloped properties
-Require consideration of stormwater impacts
-Greater proof that erosion is not part of natural shoreline migration

4) Enhance local government, subregional, or systems planning for estuarine shorelines
-Estuarine shoreline plans could complement local comprehensive beach management plans
-Tie to state funds for infrastructure?
-Encourage local ordinances along estuarine shorelines

5) Establish statewide estuarine shoreline buffers
-Use NC and GA as examples
-Current buffer ordinances may not include restrictions on erosion control activities; water quality is often the focus
-OR establish setbacks based on transgression rates (similar to beach erosion setbacks)

The Committee members are encouraged to begin thinking about these policy options or any others that they would like to develop into full draft templates.

Public Comment Period:

Rob Rettew of the Hunting Island Beach Preservation Association (HIBPA) updated the Committee on the status of erosion on Hunting Island. The south end of Hunting Island was dealt serious blows the last few weeks as persistent NE winds and spring tides combined to push water over the road and destroy some of the cabins. Some people were stranded and the road had to be repaired as well. This was the most damage experienced at Hunting Island in recent history, and Mr. Rettew believes that the definition of "emergency" with respect to emergency order permitting needs to be changed to account for situations such as those at the south end of the island. Mr. Rettew also believes that

permit applications for work on the beach take way too long to get reviewed and issued, and he stated that a minor beach renourishment permit submitted in November 2007 has yet to be issued for Hunting Island. Mr. Rettew's family has leased the land their cabin sits on for 48 years, but the cabin may need to be torn down soon if the erosion continues.

Future Meeting Schedule:

Next meeting: Estuarine Shorelines, part 2; Monday, November 24, 2008

Place: SCDHEC-OCRM, 1362 McMillan Avenue, Charleston, SC

Format: A public comment period will follow presentations and facilitated discussion.

Next Steps and Agreements:

1) Committee members who arrived late to the meeting or who were unable to attend are encouraged to get in touch with OCRM to listen to the full audio transcript, which is available in OCRM's Charleston office.

2) Any submitted written public comment materials will be distributed to Committee members. Oral public comments are described in the meeting minutes. All public comments will be available in full at OCRM's Charleston office.

3) Prior to the next meeting, OCRM will send the Committee an agenda for the meeting and draft meeting minutes for review.

4) Meeting materials including approved minutes, presentations, and public comments will be posted: http://www.scdhec.gov/environment/ocrm/science/shoreline_comm.htm

5) Committee members will review these meeting minutes and begin thinking about the estuarine shoreline policy options listed above.